

What is claimed is:

1. A method of qualifying kidney transplant rejection status in a subject comprising:

(a) measuring at least one Biomarker in a sample from the subject, wherein the

5 Biomarker is selected from the group consisting of

Biomarker 1: having a molecular weight of about 2.5 kD;

Biomarker 2: having a molecular weight of about 2.6 kD;

Biomarker 3: having a molecular weight of about 3.4 kD;

Biomarker 4: having a molecular weight of about 3.5 kD;

10 Biomarker 5: having a molecular weight of about 3.8 kD;

Biomarker 6: having a molecular weight of about 4.1 kD;

Biomarker 7: having a molecular weight of about 4.7 kD;

Biomarker 8: having a molecular weight of about 4.8 kD;

Biomarker 9: having a molecular weight of about 5.0 kD;

15 Biomarker 10: having a molecular weight of about 5.5 kD;

Biomarker 11: having a molecular weight of about 5.6 kD;

Biomarker 12: having a molecular weight of about 6.1 kD;

Biomarker 13: having a molecular weight of about 6.4 kD;

Biomarker 14: having a molecular weight of about 6.5 kD;

20 Biomarker 15: having a molecular weight of about 6.6 kD;

Biomarker 16: having a molecular weight of about 6.7 kD;

Biomarker 17: having a molecular weight of about 6.8 kD;

Biomarker 18: having a molecular weight of about 7.0 kD;

Biomarker 19: having a molecular weight of about 7.1 kD;

25 Biomarker 20: having a molecular weight of about 7.3 kD;

Biomarker 21: having a molecular weight of about 7.5 kD;

Biomarker 22: having a molecular weight of about 7.8 kD;

Biomarker 23: having a molecular weight of about 8.0 kD;

Biomarker 24: having a molecular weight of about 8.1 kD;

30 Biomarker 25: having a molecular weight of about 9.0 kD;

Biomarker 26: having a molecular weight of about 9.1 kD;

Biomarker 27: having a molecular weight of about 9.3 kD;

Biomarker 28: having a molecular weight of about 9.6 kD;

Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
5 Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;
Biomarker 36: having a molecular weight of about 13.9 kD;
Biomarker 37: having a molecular weight of about 14.7 kD;
10 Biomarker 38: having a molecular weight of about 14.8 kD;
Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
Biomarker 41: having a molecular weight of about 16.1 kD;
Biomarker 42: having a molecular weight of about 25.0 kD;
15 Biomarker 43: having a molecular weight of about 28.0 kD;
Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
Biomarker 46: having a molecular weight of about 51.1 kD;
Biomarker 47: having a molecular weight of about 51.3 kD;
20 Biomarker 48: having a molecular weight of about 67.0 kD; and
combinations thereof, and

(b) correlating the measurement with kidney transplant rejection status.

2. The method of claim 1 further comprising:

(c) managing subject treatment based on the status.

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3. The method of claim 2, wherein managing subject treatment is selected from ordering more tests, altering immunosuppression, and taking no further action.

4. The method of claim 2 further comprising:

(d) measuring the at least one Biomarker after subject management.

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5. The method of claim 1 wherein the kidney transplant rejection status is selected from the group consisting of the subject's immunosuppression status and the effectiveness of immunosuppression on kidney transplant rejection.

6. A method for differentiating between a diagnosis of kidney rejection and non-rejection comprising:

(a) detecting in a subject sample an amount of at least one Biomarker selected from the group consisting of:

- 5 Biomarker 3: having a molecular weight of about 3.4 kD;
- Biomarker 6: having a molecular weight of about 4.1 kD;
- Biomarker 14: having a molecular weight of about 6.5 kD;
- Biomarker 15: having a molecular weight of about 6.6 kD;
- Biomarker 16: having a molecular weight of about 6.7 kD;
- 10 Biomarker 18: having a molecular weight of about 7.0 kD;
- Biomarker 19: having a molecular weight of about 7.1 kD;
- Biomarker 20: having a molecular weight of about 7.3 kD;
- Biomarker 21: having a molecular weight of about 7.5 kD;
- Biomarker 22: having a molecular weight of about 7.8 kD;
- 15 Biomarker 23: having a molecular weight of about 8.0 kD;
- Biomarker 32: having a molecular weight of about 10.8 kD;
- Biomarker 35: having a molecular weight of about 13.4 kD;

and

(b) correlating the amount with a diagnosis of kidney transplant
20 rejection or non-rejection.

7. A method for differentiating between a diagnosis of kidney rejection and non-rejection comprising:

(a) detecting in a subject sample an amount of at least one Biomarker selected from the group consisting of:

- 25 Biomarker 25: having a molecular weight of about 9.0 kD;
- Biomarker 29: having a molecular weight of about 9.7 kD;
- Biomarker 30: having a molecular weight of about 9.8 kD and

(b) correlating the amount with a diagnosis of kidney transplant rejection or non-rejection.

30 8. The method of any of claims 1-7 wherein the Biomarker is detected by mass spectrometry.

9. The method of any of claims 1-7 wherein the Biomarker is detected by capturing the Biomarker on a biochip having an affinity surface and detecting the captured Biomarker by SELDI.

10. The method of claim 8 wherein the affinity surface comprises
5 immobilized metal chelate of nickel.

11. The method of claim 10 wherein the biochip is IMAC3 ProteinChip® Array.

12. The method of any one of claims 1-7 wherein the patient sample is selected from the group consisting of blood, blood plasma, serum, urine, tissue, cells,
10 organs and seminal fluids.

13. The method of any one of claims 1-7 wherein the patient sample is urine.

14. The method of any one of claims 1-7 comprising:
generating data on immobilized subject samples on a biochip, by subjecting
15 said biochip to laser ionization and detecting intensity of signal for mass/charge ratio;
and,
transforming the data into computer readable form;
executing an algorithm that classifies the data according to user input
parameters, for detecting signals that represent Biomarkers present in kidney
20 transplant rejection patients and are lacking in kidney transplant non-rejection
patients.

15. The method of any one of claims 1-7 wherein one or more of the Biomarkers are detected using laser desorption/ionization mass spectrometry, comprising:
25 providing a probe adapted for use with a mass spectrometer comprising an adsorbent attached thereto;
contacting the subject sample with the adsorbent;
desorbing and ionizing the Biomarker or Biomarkers from the probe; and,
detecting the deionized/ionized Biomarkers with the mass spectrometer.

16. The method of claim 15, wherein the adsorbent is hydrophobic, hydrophilic, ionic or metal chelate adsorbent.
17. The method of claim 16, wherein the adsorbent is comprised of nickel.
18. The method of claim 15, wherein the adsorbent is an antibody, single-
5 or double stranded oligonucleotide, amino acid, protein, peptide or fragments thereof.
19. The method of any one of claims 1-7, wherein at least one or more protein Biomarkers are detected using immunoassays.
20. A process for purification of a Biomarker, comprising fractioning a sample comprising one or more protein Biomarkers by size-exclusion
10 chromatography and collecting a fraction that includes the one or more Biomarker; and/or fractionating a sample comprising the one or more Biomarkers by anion exchange chromatography and collecting a fraction that includes the one or more Biomarkers, wherein the Biomarker is selected from:
- 15 Biomarker 1: having a molecular weight of about 2.5 kD;
Biomarker 2: having a molecular weight of about 2.6 kD;
Biomarker 3: having a molecular weight of about 3.4 kD;
Biomarker 4: having a molecular weight of about 3.5 kD;
Biomarker 5: having a molecular weight of about 3.8 kD;
Biomarker 6: having a molecular weight of about 4.1 kD;
20 Biomarker 7: having a molecular weight of about 4.7 kD;
Biomarker 8: having a molecular weight of about 4.8 kD;
Biomarker 9: having a molecular weight of about 5.0 kD;
Biomarker 10: having a molecular weight of about 5.5 kD;
Biomarker 11: having a molecular weight of about 5.6 kD;
25 Biomarker 12: having a molecular weight of about 6.1 kD;
Biomarker 13: having a molecular weight of about 6.4 kD;
Biomarker 14: having a molecular weight of about 6.5 kD;
Biomarker 15: having a molecular weight of about 6.6 kD;
Biomarker 16: having a molecular weight of about 6.7 kD;
30 Biomarker 17: having a molecular weight of about 6.8 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;

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Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 24: having a molecular weight of about 8.1 kD;
Biomarker 25: having a molecular weight of about 9.0 kD;
Biomarker 26: having a molecular weight of about 9.1 kD;
Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;
Biomarker 36: having a molecular weight of about 13.9 kD;
Biomarker 37: having a molecular weight of about 14.7 kD;
Biomarker 38: having a molecular weight of about 14.8 kD;
Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
Biomarker 41: having a molecular weight of about 16.1 kD;
Biomarker 42: having a molecular weight of about 25.0 kD;
Biomarker 43: having a molecular weight of about 28.0 kD;
Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
Biomarker 46: having a molecular weight of about 51.1 kD;
Biomarker 47: having a molecular weight of about 51.3 kD; and
Biomarker 48: having a molecular weight of about 67.0 kD.

21. The process of claim 20, wherein fractionation is monitored for purity on normal phase and immobilized nickel arrays.

22. The process of claim 20, for generating data on immobilized Biomarker fractions on an array, comprising:

subjecting said array to laser ionization and detecting intensity of signal for mass/charge ratio;

5 transforming the data into computer readable form; and

executing an algorithm that classifies the data according to user input parameters, for detecting signals that represent Biomarkers present in kidney transplant rejection patients and are lacking in kidney transplant non-rejection patients.

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23. The process of claim 20, wherein fractions are subjected to gel electrophoresis and correlated with data generated by mass spectrometry.

24. A kit for aiding the diagnosis of kidney transplant rejection,
15 comprising:

an adsorbent attached to a substrate, wherein the adsorbent retains one or more Biomarkers selected from:

Biomarker 1: having a molecular weight of about 2.5 kD;

Biomarker 2: having a molecular weight of about 2.6 kD;

20 Biomarker 3: having a molecular weight of about 3.4 kD;

Biomarker 4: having a molecular weight of about 3.5 kD;

Biomarker 5: having a molecular weight of about 3.8 kD;

Biomarker 6: having a molecular weight of about 4.1 kD;

Biomarker 7: having a molecular weight of about 4.7 kD;

25 Biomarker 8: having a molecular weight of about 4.8 kD;

Biomarker 9: having a molecular weight of about 5.0 kD;

Biomarker 10: having a molecular weight of about 5.5 kD;

Biomarker 11: having a molecular weight of about 5.6 kD;

Biomarker 12: having a molecular weight of about 6.1 kD;

30 Biomarker 13: having a molecular weight of about 6.4 kD;

Biomarker 14: having a molecular weight of about 6.5 kD;

Biomarker 15: having a molecular weight of about 6.6 kD;

Biomarker 16: having a molecular weight of about 6.7 kD;

Biomarker 17: having a molecular weight of about 6.8 kD;

- 5 Biomarker 18: having a molecular weight of about 7.0 kD;
 Biomarker 19: having a molecular weight of about 7.1 kD;
 Biomarker 20: having a molecular weight of about 7.3 kD;
 Biomarker 21: having a molecular weight of about 7.5 kD;
 Biomarker 22: having a molecular weight of about 7.8 kD;
 Biomarker 23: having a molecular weight of about 8.0 kD;
 Biomarker 24: having a molecular weight of about 8.1 kD;
 Biomarker 25: having a molecular weight of about 9.0 kD;
 Biomarker 26: having a molecular weight of about 9.1 kD;
10 Biomarker 27: having a molecular weight of about 9.3 kD;
 Biomarker 28: having a molecular weight of about 9.6 kD;
 Biomarker 29: having a molecular weight of about 9.7 kD;
 Biomarker 30: having a molecular weight of about 9.8 kD;
 Biomarker 31: having a molecular weight of about 10.0 kD;
15 Biomarker 32: having a molecular weight of about 10.8 kD;
 Biomarker 33: having a molecular weight of about 10.9 kD;
 Biomarker 34: having a molecular weight of about 11.3 kD;
 Biomarker 35: having a molecular weight of about 13.4 kD;
 Biomarker 36: having a molecular weight of about 13.9 kD;
20 Biomarker 37: having a molecular weight of about 14.7 kD;
 Biomarker 38: having a molecular weight of about 14.8 kD;
 Biomarker 39: having a molecular weight of about 15.1 kD;
 Biomarker 40: having a molecular weight of about 15.2 kD;
 Biomarker 41: having a molecular weight of about 16.1 kD;
25 Biomarker 42: having a molecular weight of about 25.0 kD;
 Biomarker 43: having a molecular weight of about 28.0 kD;
 Biomarker 44: having a molecular weight of about 50.0 kD;
 Biomarker 45: having a molecular weight of about 50.1 kD;
 Biomarker 46: having a molecular weight of about 51.1 kD;
30 Biomarker 47: having a molecular weight of about 51.3 kD; and
 Biomarker 48: having a molecular weight of about 67.0 kD.

25. The kit of claim 24, further comprising written instructions for use of the kit for detection of kidney transplant rejection.

26. The kit of claim 24, wherein the instruction provide for contacting a test sample with the absorbent and detecting one or more Biomarkers retained by the absorbent.
- 5 27. The kit of claim 24, wherein the substrate allows for adsorption of said adsorbent.
28. The kit of claim 24, wherein the substrate can be hydrophobic, hydrophilic, charged, polar, metal ions.
- 10 29. The kit of claim 24, wherein the adsorbent is an antibody, single or double stranded oligonucleotide, amino acid, protein, peptide or fragments thereof.
30. The kit of claim 24, wherein one or more protein Biomarkers is
15 detected using mass spectrometry.
31. The kit of claim 24, wherein one or more protein Biomarkers is detected using immunoassays.
- 20 32. The kit of claim 31, wherein the immunoassay is an ELISA.
33. The method of claim any one of claims 1 through 17, further comprising measuring the amount of each Biomarker in the subject sample and determining the ratio of the amounts between the Biomarkers.
- 25 34. The method of any one of claims 1-7, further comprising measuring the amount of each Biomarker in the subject sample and determining the ratio of the amounts between the Biomarkers and known kidney transplant rejection Biomarkers.
- 30 35. The method of any one of claims 1-10, wherein the stage of kidney transplant rejection is assessed.
36. A protein purified on a biochip selected from:
Biomarker 1: having a molecular weight of about 2.5 kD;

- 5 Biomarker 2: having a molecular weight of about 2.6 kD;
Biomarker 3: having a molecular weight of about 3.4 kD;
Biomarker 4: having a molecular weight of about 3.5 kD;
Biomarker 5: having a molecular weight of about 3.8 kD;
Biomarker 6: having a molecular weight of about 4.1 kD;
Biomarker 7: having a molecular weight of about 4.7 kD;
Biomarker 8: having a molecular weight of about 4.8 kD;
Biomarker 9: having a molecular weight of about 5.0 kD;
Biomarker 10: having a molecular weight of about 5.5 kD;
10 Biomarker 11: having a molecular weight of about 5.6 kD;
Biomarker 12: having a molecular weight of about 6.1 kD;
Biomarker 13: having a molecular weight of about 6.4 kD;
Biomarker 14: having a molecular weight of about 6.5 kD;
Biomarker 15: having a molecular weight of about 6.6 kD;
15 Biomarker 16: having a molecular weight of about 6.7 kD;
Biomarker 17: having a molecular weight of about 6.8 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;
Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
20 Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 24: having a molecular weight of about 8.1 kD;
Biomarker 25: having a molecular weight of about 9.0 kD;
25 Biomarker 26: having a molecular weight of about 9.1 kD;
Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
30 Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;

5 Biomarker 36: having a molecular weight of about 13.9 kD;
 Biomarker 37: having a molecular weight of about 14.7 kD;
 Biomarker 38: having a molecular weight of about 14.8 kD;
 Biomarker 39: having a molecular weight of about 15.1 kD;
 Biomarker 40: having a molecular weight of about 15.2 kD;
 Biomarker 41: having a molecular weight of about 16.1 kD;
 Biomarker 42: having a molecular weight of about 25.0 kD;
 Biomarker 43: having a molecular weight of about 28.0 kD;
 Biomarker 44: having a molecular weight of about 50.0 kD;
10 Biomarker 45: having a molecular weight of about 50.1 kD;
 Biomarker 46: having a molecular weight of about 51.1 kD;
 Biomarker 47: having a molecular weight of about 51.3 kD; and
 Biomarker 48: having a molecular weight of about 67.0 kD.

15 37. The purified proteins of claim 36, comprising a composition of a
 combination of at least two proteins.

 38. The method of claim 1 wherein measuring comprises:
 (a) providing a subject sample of urine or a urine derivative;
 (b) fractionating proteins in the sample on an anion exchange resin and
20 collecting fractions that contain at least one Biomarker selected from the group
 consisting of Biomarkers 1 through 48; and
 (c) capturing at least one Biomarker selected from the group consisting of
 Biomarker 1 through 48 from the fractions on a surface of a substrate comprising
 capture reagents that bind the protein Biomarkers.

25 39. The method of claim 38 wherein the substrate is a SELDI probe
 comprising an IMAC3 nickel surface and wherein the protein Biomarkers are detected
 by SELDI.

 40. The method of claim 38 wherein the substrate is a SELDI probe
 comprising biospecific affinity reagents that bind at least one Biomarker selected
30 from the group consisting of Biomarkers 1 through 48 and wherein the protein
 Biomarkers are detected by SELDI.

41. The method of claim 38 wherein the substrate is a microtiter plate comprising biospecific affinity reagents that bind at least one Biomarker selected from the group consisting of Biomarkers 1 through 48 and the protein Biomarkers are detected by immunoassay.

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42. The method of claim 1, wherein measuring is selected from detecting the presence or absence of the Biomarkers(s), quantifying the amount of Biomarker(s), and qualifying the type of Biomarker.

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43. The method of claim 1 wherein at least one Biomarker is measured using a biochip array.

44. The method of claim 43 wherein the biochip array is a protein chip array.

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45. The method of claim 43 wherein the biochip array is a nucleic acid array.

46. The method of claim 43 wherein at least one Biomarker is immobilized on the biochip array.

47. The method of claim 1 wherein the protein Biomarkers are measured by SELDI.

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48. The method of claim 1 wherein the protein Biomarkers are measured by immunoassay.

49. The method of claim 1 wherein the correlating is performed by a software classification algorithm.

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50. The method of claim 1 wherein the sample is selected from blood, serum and plasma.

51. A method comprising:

(a) measuring a plurality of Biomarkers in a sample from the subject, wherein the Biomarkers are selected from the group consisting of:

Biomarker 1: having a molecular weight of about 2.5 kD;

- Biomarker 2: having a molecular weight of about 2.6 kD;
Biomarker 3: having a molecular weight of about 3.4 kD;
Biomarker 4: having a molecular weight of about 3.5 kD;
Biomarker 5: having a molecular weight of about 3.8 kD;
5 Biomarker 6: having a molecular weight of about 4.1 kD;
Biomarker 7: having a molecular weight of about 4.7 kD;
Biomarker 8: having a molecular weight of about 4.8 kD;
Biomarker 9: having a molecular weight of about 5.0 kD;
Biomarker 10: having a molecular weight of about 5.5 kD;
10 Biomarker 11: having a molecular weight of about 5.6 kD;
Biomarker 12: having a molecular weight of about 6.1 kD;
Biomarker 13: having a molecular weight of about 6.4 kD;
Biomarker 14: having a molecular weight of about 6.5 kD;
Biomarker 15: having a molecular weight of about 6.6 kD;
15 Biomarker 16: having a molecular weight of about 6.7 kD;
Biomarker 17: having a molecular weight of about 6.8 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;
Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
20 Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 24: having a molecular weight of about 8.1 kD;
Biomarker 25: having a molecular weight of about 9.0 kD;
25 Biomarker 26: having a molecular weight of about 9.1 kD;
Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
30 Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;

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Biomarker 35: having a molecular weight of about 13.4 kD;
Biomarker 36: having a molecular weight of about 13.9 kD;
Biomarker 37: having a molecular weight of about 14.7 kD;
Biomarker 38: having a molecular weight of about 14.8 kD;
Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
Biomarker 41: having a molecular weight of about 16.1 kD;
Biomarker 42: having a molecular weight of about 25.0 kD;
Biomarker 43: having a molecular weight of about 28.0 kD;
Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
Biomarker 46: having a molecular weight of about 51.1 kD;
Biomarker 47: having a molecular weight of about 51.3 kD;
Biomarker 48: having a molecular weight of about 67.0 kD.

52. The method of claim 51 wherein the plurality are selected from the group consisting of:

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Biomarker 3: having a molecular weight of about 3.4 kD;
Biomarker 6: having a molecular weight of about 4.1 kD;
Biomarker 14: having a molecular weight of about 6.5 kD;
Biomarker 15: having a molecular weight of about 6.6 kD;
Biomarker 16: having a molecular weight of about 6.7 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;
Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 35: having a molecular weight of about 13.4 kD.

53. The method of claim 51 wherein the plurality are selected from the group consisting of:

Biomarker 25: having a molecular weight of about 9.0 kD;

Biomarker 29: having a molecular weight of about 9.7 kD;

Biomarker 30: having a molecular weight of about 9.8 kD.

54. The method of claim 51 wherein the protein Biomarkers are detected by SELDI or immunoassay.

5 55. The method of claim 51 wherein the sample is selected from blood, serum and plasma.

56. The kit of claim 24 herein the adsorbent binds a plurality of the Biomarkers.

57. The kit of claim 24 wherein the adsorbent is a SELDI probe.

10 58. The kit of claim 24 further comprising a second adsorbent that binds one of the Biomarkers that the first adsorbent does not bind.

59. A kit comprising:

(a) a first capture reagent that binds at least one Biomarker selected from the group consisting of:

15 Biomarker 1: having a molecular weight of about 2.5 kD;

Biomarker 2: having a molecular weight of about 2.6 kD;

Biomarker 3: having a molecular weight of about 3.4 kD;

Biomarker 4: having a molecular weight of about 3.5 kD;

Biomarker 5: having a molecular weight of about 3.8 kD;

20 Biomarker 6: having a molecular weight of about 4.1 kD;

Biomarker 7: having a molecular weight of about 4.7 kD;

Biomarker 8: having a molecular weight of about 4.8 kD;

Biomarker 9: having a molecular weight of about 5.0 kD;

Biomarker 10: having a molecular weight of about 5.5 kD;

25 Biomarker 11: having a molecular weight of about 5.6 kD;

Biomarker 12: having a molecular weight of about 6.1 kD;

Biomarker 13: having a molecular weight of about 6.4 kD;

Biomarker 14: having a molecular weight of about 6.5 kD;

Biomarker 15: having a molecular weight of about 6.6 kD;

30 Biomarker 16: having a molecular weight of about 6.7 kD;

5 Biomarker 17: having a molecular weight of about 6.8 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;
Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 24: having a molecular weight of about 8.1 kD;
Biomarker 25: having a molecular weight of about 9.0 kD;
10 Biomarker 26: having a molecular weight of about 9.1 kD;
Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
15 Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;
20 Biomarker 36: having a molecular weight of about 13.9 kD;
Biomarker 37: having a molecular weight of about 14.7 kD;
Biomarker 38: having a molecular weight of about 14.8 kD;
Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
25 Biomarker 41: having a molecular weight of about 16.1 kD;
Biomarker 42: having a molecular weight of about 25.0 kD;
Biomarker 43: having a molecular weight of about 28.0 kD;
Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
30 Biomarker 46: having a molecular weight of about 51.1 kD;
Biomarker 47: having a molecular weight of about 51.3 kD;
Biomarker 48: having a molecular weight of about 67.0 kD.; and,

(b) a second capture reagent that binds at least one of the Biomarkers that is not bound by the first capture reagent.

60. The kit of claim 59 wherein the capture reagent is an immobilized metal chelate.

61. The kit of claim 59 further comprising a wash solution that selectively allows retention of the bound Biomarker to the capture reagent as compared with
5 other Biomarkers after washing.

62. An article manufacture comprising:

(a) at least one capture reagent that binds to at least one Biomarker selected from the group consisting of:

- 10 Biomarker 1: having a molecular weight of about 2.5 kD;
- Biomarker 2: having a molecular weight of about 2.6 kD;
- Biomarker 3: having a molecular weight of about 3.4 kD;
- Biomarker 4: having a molecular weight of about 3.5 kD;
- Biomarker 5: having a molecular weight of about 3.8 kD;
- Biomarker 6: having a molecular weight of about 4.1 kD;
- 15 Biomarker 7: having a molecular weight of about 4.7 kD;
- Biomarker 8: having a molecular weight of about 4.8 kD;
- Biomarker 9: having a molecular weight of about 5.0 kD;
- Biomarker 10: having a molecular weight of about 5.5 kD;
- Biomarker 11: having a molecular weight of about 5.6 kD;
- 20 Biomarker 12: having a molecular weight of about 6.1 kD;
- Biomarker 13: having a molecular weight of about 6.4 kD;
- Biomarker 14: having a molecular weight of about 6.5 kD;
- Biomarker 15: having a molecular weight of about 6.6 kD;
- Biomarker 16: having a molecular weight of about 6.7 kD;
- 25 Biomarker 17: having a molecular weight of about 6.8 kD;
- Biomarker 18: having a molecular weight of about 7.0 kD;
- Biomarker 19: having a molecular weight of about 7.1 kD;
- Biomarker 20: having a molecular weight of about 7.3 kD;
- Biomarker 21: having a molecular weight of about 7.5 kD;
- 30 Biomarker 22: having a molecular weight of about 7.8 kD;
- Biomarker 23: having a molecular weight of about 8.0 kD;
- Biomarker 24: having a molecular weight of about 8.1 kD;

5 Biomarker 25: having a molecular weight of about 9.0 kD;
Biomarker 26: having a molecular weight of about 9.1 kD;
Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
Biomarker 31: having a molecular weight of about 10.0 kD;
Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
10 Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;
Biomarker 36: having a molecular weight of about 13.9 kD;
Biomarker 37: having a molecular weight of about 14.7 kD;
Biomarker 38: having a molecular weight of about 14.8 kD;
15 Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
Biomarker 41: having a molecular weight of about 16.1 kD;
Biomarker 42: having a molecular weight of about 25.0 kD;
Biomarker 43: having a molecular weight of about 28.0 kD;
20 Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
Biomarker 46: having a molecular weight of about 51.1 kD;
Biomarker 47: having a molecular weight of about 51.3 kD;
Biomarker 48: having a molecular weight of about 67.0 kD.

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63. The article manufacture of claim 62 wherein the Biomarker is selected from the group consisting of:

30 Biomarker 3: having a molecular weight of about 3.4 kD;
Biomarker 6: having a molecular weight of about 4.1 kD;
Biomarker 14: having a molecular weight of about 6.5 kD;
Biomarker 15: having a molecular weight of about 6.6 kD;
Biomarker 16: having a molecular weight of about 6.7 kD;
Biomarker 18: having a molecular weight of about 7.0 kD;

5 Biomarker 19: having a molecular weight of about 7.1 kD;
 Biomarker 20: having a molecular weight of about 7.3 kD;
 Biomarker 21: having a molecular weight of about 7.5 kD;
 Biomarker 22: having a molecular weight of about 7.8 kD;
 Biomarker 23: having a molecular weight of about 8.0 kD;
 Biomarker 32: having a molecular weight of about 10.8 kD;
 Biomarker 35: having a molecular weight of about 13.4 kD.

64. The article manufacture of claim 62 wherein the Biomarker is selected from the group consisting of:

10 Biomarker 25: having a molecular weight of about 9.0 kD;
 Biomarker 29: having a molecular weight of about 9.7 kD;
 Biomarker 30: having a molecular weight of about 9.8 kD.

65. A system comprising:

15 (a) a plurality of capture reagents each of which has bound to it a different Biomarker selected from

 Biomarker 1: having a molecular weight of about 2.5 kD;
 Biomarker 2: having a molecular weight of about 2.6 kD;
 Biomarker 3: having a molecular weight of about 3.4 kD;
 Biomarker 4: having a molecular weight of about 3.5 kD;
20 Biomarker 5: having a molecular weight of about 3.8 kD;
 Biomarker 6: having a molecular weight of about 4.1 kD;
 Biomarker 7: having a molecular weight of about 4.7 kD;
 Biomarker 8: having a molecular weight of about 4.8 kD;
 Biomarker 9: having a molecular weight of about 5.0 kD;
25 Biomarker 10: having a molecular weight of about 5.5 kD;
 Biomarker 11: having a molecular weight of about 5.6 kD;
 Biomarker 12: having a molecular weight of about 6.1 kD;
 Biomarker 13: having a molecular weight of about 6.4 kD;
 Biomarker 14: having a molecular weight of about 6.5 kD;
30 Biomarker 15: having a molecular weight of about 6.6 kD;
 Biomarker 16: having a molecular weight of about 6.7 kD;
 Biomarker 17: having a molecular weight of about 6.8 kD;

- 5 Biomarker 18: having a molecular weight of about 7.0 kD;
Biomarker 19: having a molecular weight of about 7.1 kD;
Biomarker 20: having a molecular weight of about 7.3 kD;
Biomarker 21: having a molecular weight of about 7.5 kD;
Biomarker 22: having a molecular weight of about 7.8 kD;
Biomarker 23: having a molecular weight of about 8.0 kD;
Biomarker 24: having a molecular weight of about 8.1 kD;
Biomarker 25: having a molecular weight of about 9.0 kD;
Biomarker 26: having a molecular weight of about 9.1 kD;
10 Biomarker 27: having a molecular weight of about 9.3 kD;
Biomarker 28: having a molecular weight of about 9.6 kD;
Biomarker 29: having a molecular weight of about 9.7 kD;
Biomarker 30: having a molecular weight of about 9.8 kD;
Biomarker 31: having a molecular weight of about 10.0 kD;
15 Biomarker 32: having a molecular weight of about 10.8 kD;
Biomarker 33: having a molecular weight of about 10.9 kD;
Biomarker 34: having a molecular weight of about 11.3 kD;
Biomarker 35: having a molecular weight of about 13.4 kD;
Biomarker 36: having a molecular weight of about 13.9 kD;
20 Biomarker 37: having a molecular weight of about 14.7 kD;
Biomarker 38: having a molecular weight of about 14.8 kD;
Biomarker 39: having a molecular weight of about 15.1 kD;
Biomarker 40: having a molecular weight of about 15.2 kD;
Biomarker 41: having a molecular weight of about 16.1 kD;
25 Biomarker 42: having a molecular weight of about 25.0 kD;
Biomarker 43: having a molecular weight of about 28.0 kD;
Biomarker 44: having a molecular weight of about 50.0 kD;
Biomarker 45: having a molecular weight of about 50.1 kD;
Biomarker 46: having a molecular weight of about 51.1 kD;
30 Biomarker 47: having a molecular weight of about 51.3 kD;
Biomarker 48: having a molecular weight of about 67.0 kD.